Glass fiber forming and relaxation

An invited talk

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The formation and relaxation of glass fibers are complicated and interdisciplinary problems involving melt chemistry, thermodynamics, rheology and surface characteristics. Despite substantial progress, we are still far from a thorough understanding of those problems. In this talk, I will present our recent studies on glass fibers with regard to the following aspects: 1) The definition and quantification of glass fiber spinnability; 2) Chemical and structural impact on the fiber spinnability; 3) The stretching mechanism of a glass filament; 4) The window of the force for drawing fibers; 5) Factors influencing the fiber strength; 6) Relaxation and structural heterogeneity in glass fibers, and 7) Potential consequences of the above-mentioned aspects to glass technology.

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